

REMARKS

Applicants thank the Examiner for examining the application, and for indicating that claims 3, 5, 9, 12-14, 17, 19, 23, and 26-28 would be allowable if rewritten in independent form including the limitations of the base claim and any intervening claims. Applicants decline to do so at this time, but reserve the right to do so in the future. Applicants note that, should any base claim or intervening claims on which allowable claims 3, 5, 9, 12-14, 17, 19, 23, and 26-28 depend be amended in the future, that claims 3, 5, 9, 12-14, 17, 19, 23, and 26-28 were allowed as currently written, that is, prior to any such amendment, and would be re-written as such if Applicants so choose at a later time.

Applicants have amended claims 12 and 29, as discussed below, to remove typographical errors. Applicants have also added new claims 30-35. Support for the addition of new claims 30-35 may be found in the specification at least at page 15 lines 15-25, page 12 lines 24-30, page 6 lines 26-27, page 11 line 27 to page 12 line 4, page 22 lines 1-10 lines 21-24, and elsewhere throughout the specification.

With the amendment, claims 1-35 are now pending.

Claim Objections

The Examiner objected to claims 11, 12, and 29 because of informalities. Specifically, claim 11 includes an extra "at" in the phrase "operational path ending at at least one storage object"; claim 12 part ii unnecessarily includes "that are" before not directly; and claim 29 misspells network as "netowrk" on line 3.

Applicants have amended claims 12 and 29 to correct these errors, and thank the Examiner for bringing them to Applicants' attention. However, Applicants respectfully submit that claim 11 does not include an additional "at"; rather, when reading the entirety of the phrase, both occurrences of "at" are appropriate. Applicants thus decline to amend claim 11, as there is no need to do so.

Claim Rejections – 35 U.S.C. § 102(e)

The Examiner rejected claims 1-2, 4, 6-8, 10-11, 15-16, 18, 20-22, and 24-25 under 35 U.S.C. § 102(e) as being clearly anticipated by U.S. Published Patent Application No. 2003/0093509 to Li et al.

Applicants' independent claim 1 requires, among other things, applying a series of resource traversal functions to a repository containing objects representative of network resources in the network environment, the traversal functions identifying a set of action affected resources in the network environment existing along a set of relationship paths extending to at least one storage device that have a current allocation relationship to the selected resource. The Examiner cited to ¶¶ 0608 and 0611; and ¶¶ 0501 and 0502 as disclosing this limitation.

However, neither the cited paragraphs nor any other part of Li et al. actually discloses applying a series of resource traversal functions to a repository containing objects representative of network resources in the network environment, the traversal functions identifying a set of action affected resources in the network environment existing along a set of relationship paths extending to at least one storage device that have a current allocation relationship to the selected resource, as required by Applicants' independent claim 1. The Examiner seems to be arguing that, in ¶¶ 0501 and 0502, Li et al. discloses a series of functions used to traverse various levels of a SAN topology. Even if this were true, the functions to which the Examiner refers do not identify a set of action affected resources, as further required by Applicants' independent claim 1. Rather, the functions show different levels of the SAN, one level at a time, depending on which element of the SAN is selected by a user. In ¶¶ 0501 and 0502, Li et al. does not even mention using these functions for any other purpose.

The Examiner also seems to be arguing that ¶¶ 608 and 611 disclose finding action affected resources, as is required by Applicants' independent claim 1. Even if this statement were accurate – a point to which Applicants do not admit, except for purposes of the following argument and to see things from the Examiner's perspective – the methodology by which ¶¶ 608 and 611 (and all the following paragraphs of that

section) describe finding “action affected resources” does not involve, and does not even suggest, using resource traversal functions. Rather, what ¶¶ 0608 and 0611 and the successive paragraphs disclose is to search through mold objects that represent components and their inter-relationships within the SAN; *see at least* ¶¶ 0611 and 614. The search is performed by examining the mold objects, which are tables of data, *see at least* ¶ 0624, for the identifier of a particular component to which an action has already been applied. In other words, these paragraphs do not disclose using resource traversal functions to identify action affected resources, as required by Applicants’ independent claim 1, but rather, use a text string search to identify a resource to which an action has already been applied.

Applicants’ independent claim 1 also requires, among other things, presenting a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource.

The Examiner cited to two sets of paragraphs of Li et al. as disclosing this limitation. The first set of paragraphs is paragraphs 0608 and 0611; the second set is paragraphs 0501 and 0502.

Regarding paragraphs 0608 and 0611, these paragraphs certainly do not disclose presenting a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource, as required by Applicants’ independent claim 1. Indeed, the entirety of the section of Li et al. of which ¶¶ 0608 and 0611 are a part (entitled “Ensuing Validity of Data from the Scanners”, ¶¶ 0605-0626)

have nothing whatsoever to do with presenting anything. Rather, the section describes the internal functioning of a discover engine 40 and its component parts, specifically when validating data received from scanners. These paragraphs describe in detail how, if data about the composition of the SAN collected by one scanner conflicts with data about the composition of the SAN collected by a different scanner, it is possible to reconcile or otherwise validate these conflicts. As described above, searches are performed on moid objects (i.e., tables) to perform this validation; *see at least* ¶¶ 0611 and 0624. That is, the results of those searches are used to validate which data collected by the scanner is correct. At no point in any of the paragraphs of the section does Li et al. even suggest presenting the results of those searches, that is, the information used to validate the data collected by the scanners, to a user. The search results are used for validation purposes only; *see at least* ¶ 0638.

However, ¶¶ 0501-0502, and the section of which they are a part (entitled "Large Scale Mechanism for Rendering a SAN Topology", ¶¶ 0493-0508), do disclose presenting a representation of a set of resources in the network environment to a user of the management application. However, at no point do any of the paragraphs in this section, including ¶¶ 0501-0502, disclose presenting a representation of the set of **action affected resources** in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource, as required by Applicants' independent claim 1 (emphasis added). Indeed, the entirety of these section of paragraphs deals solely with presenting a SAN topology, including various levels of the topology, and does not even suggest that a representation of a set of action affected resources be presented, much less that the representation inform a user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource. In other words, presuming the discovery

engine 40, described in detail in the section of paragraphs including ¶¶ 0608 and 0611, does gather information concerning action affected resources similar to the applying limitation of Applicants' independent claim 1 (a point which Applicants concede only for the sake of this argument, and otherwise do not admit to) – the search results for purposes of validation that Applicants refer to above - there is nothing whatsoever in Li et al. that even suggests, much less discloses, that those search results are ever presented to a user. Rather, what is presented to the user is the outcome of the validation process – that is, the validated data collected by scanners that represents the current topology of the SAN and its various hierarchical levels (*see at least* ¶¶ 0495-0508) and components of the SAN (*see at least* ¶¶ 0344-0348). The intermediary data of the validation process – that is, the searches of the mold objects (tables) that indicate various relationships between a particular component that may (or may not) be changed and other components of the SAN – is never shown to a user. Li et al. does not disclose presenting this data. Li et al. does not even **suggest** presenting this data.

Thus, Li et al. is silent on presenting any information related to action affected resources. Though Li et al. does disclose information presented on a GUI that allows for management (i.e., assignment, unassignment, etc.) of logical unit numbers (LUNs) for components in the SAN, *see at least* ¶¶ 0349-0353, nothing in those paragraphs discloses or even suggests that the among the information presented is a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource, as required by Applicants' independent claim 1.

For at least these reasons given above, Li et al. fails to disclose or even suggest either (1) applying a series of resource traversal functions to a repository containing objects representative of network resources in the network environment, the traversal

functions identifying a set of action affected resources in the network environment existing along a set of relationship paths extending to at least one storage device that have a current allocation relationship to the selected resource or (2) presenting a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to which a management action is to be applied and that may be affected if the management action is to be applied to the selected resource, each as required by Applicants' independent claim 1. Thus, Li et al. does not anticipate Applicants' independent claim 1, and therefore Applicants' independent claim 1 is allowable over Li et al.

Applicants' independent claims 15 and 29 include limitations similar to those of Applicants' allowable independent claim 1. Therefore, for at least the reason(s) given above with regards to Applicants' allowable independent claim 1, Applicants' independent claims 15 and 29 are themselves not disclosed by Li et al., and thus, Applicants' independent claims 15 and 29 are allowable over Li et al.

Applicants' dependent claims 2, 4, 6-8, 10-11, 16, 18, 20-22, and 24-25 depend from, respectively, Applicants' allowable independent claims 1 and 15. Therefore, for at least the reason(s) given above with regards to Applicants' allowable independent claims 1 and 15, Applicants' dependent claims 2, 4, 6-8, 10-11, 16, 18, 20-22, and 24-25 are themselves not disclosed by Li et al., and thus, Applicants' dependent claims 2, 4, 6-8, 10-11, 16, 18, 20-22, and 24-25 are allowable over Li et al.

Further, Applicants' dependent claims 6 and 20 are, on their faces, allowable over Li et al. Applicants' dependent claims 6 and 20 require, among other things, applying a closure function to the repository containing objects representative of resources to identify a set of closure resources in the network environment that have an indirect relationship to any resources in the set of upward and downward resources, the

set of closure resources indicating resources that would be affected by a change made to operation of resources. The Examiner cited to ¶¶ 0110-0113 of Li et al. as disclosing this limitation.

However, neither the cited paragraphs nor any other part of Li et al. actually discloses applying a closure function to the repository containing objects representative of resources to identify a set of closure resources in the network environment that have an indirect relationship to any resources in the set of upward and downward resources, the set of closure resources indicating resources that would be affected by a change made to operation of resources, as required by Applicants' dependent claims 6 and 20.

¶¶ 0110-0113 of Li et al. disclose scanning SAN components to find relationships therebetween, and then validating the results of the scans. No mention is made of applying a closure function to objects representative of resources; rather, the cited paragraphs disclose looking through the scans. The scans are used to find actual relationships, and not indirect relationships, as required by Applicants' dependent claims 6 and 20. Finally, the cited paragraphs do not disclose identifying a set of closure resources that have such indirect relationships with other resources, because Li et al. does not disclose finding such indirect relationships. (For further information regarding closure functions and a set of closure resources, Applicants respectfully point the Examiner to specification page 20 line 12 to page 21 line 17.) For any of these reasons, Li et al. does not disclose Applicants' dependent claims 6 and 20, and thus Applicants' dependent claims 6 and 20 are allowable over Li et al.

Finally, Applicants respectfully submit that new claims 30-35 are themselves allowable over Li et al. Applicants' new claim 30 requires, among other things, applying a series of resource traversal functions to a repository containing objects representative of network resources in the network environment, the objects arranged in a resource hierarchy representative of the actual hierarchy of the network resources in the network environment, wherein a connection between two resources in the resource hierarchy is a relationship indicator path, the resource traversal functions navigating up and down the hierarchy along relationship indicator paths to identify a set of action affected

resources, the action affected resources including resources connected to the selected resource along one or more relationship indicator paths. Li et al. fails to disclose the objects in a repository representative of network resources in the network environment arranged in a resource hierarchy representative of the actual hierarchy of the network resources in the network environment; that a connection between two resources in the resource hierarchy is a relationship indicator path; that the resource traversal functions navigate up and down the hierarchy along relationship indicator paths to identify a set of action affected resources; and that the action affected resources includes resources connected to the selected resource along one or more relationship indicator paths. As described above in detail with regards to Applicants' allowable independent claim 1, Li et al. discloses mold objects in the form of tables, and not a representative hierarchy of objects including relationship indicator paths between those objects.

Applicants' new dependent claim 31 requires, among other things, presenting a representation of the set of action affected resources in the network environment to a user of the management application independent of a location of an action affected resource in a level of a hierarchy of the resources, the representation informing the user of those resources in the storage area network related to the selected resource and that may be affected if the user chooses to apply the management action to the selected resource. As made clear in at least ¶ 0497 of Li et al., as well as be looking at at least Figures 28-32 of Li et al., Li et al. discloses that only one level of the topology of a SAN is viewable by a user at a time. This is in direct contrast to presenting a representation of the set of action affected resources in the network environment to a user of the management application independent of a location of an action affected resource in a level of a hierarchy of the resources, as required by Applicants' new claim 31. Further, Li et al. does not disclose presenting resources that may be affected if the user chooses to apply the management action to the selected resource; Li et al. only discovers components related to a given component when a management action has already been applied.

Applicants' new dependent claim 32 requires, among other things, applying a series of resource traversal functions to a repository containing objects representative of network resources in the network environment, the traversal functions identifying a set of action affected resources in the network environment existing along a set of relationship paths extending to at least one storage device that have a current allocation relationship to the selected resource, the set of action affected resources identified without applying a management action to the selected resource; and presenting a representation of the set of action affected resources in the network environment to a user of the management application, the representation of the set of action affected resources informing the user of resources within the storage area network that are currently in an functional relationship with the selected resource to and that may be affected when the management action is applied to the selected resource. As described throughout Li et al., the scanners of Li et al. find changes in the topology of a SAN because some type of management action (such as deallocating previously allocated storage elements) has occurred; *see at least* ¶ 0359. Because of the organization of the scanner system in Li et al., sometimes such changes are not apparent, or may be repeated throughout many scans, requiring validation. However, at no point does Li et al. even suggest that identifying action affected resources without first applying a management action to the selected resource. No does Li et al. ever suggest presenting a representation of a set of action affected resources that may be affected when the management action is applied to the selected resource.

Applicants' new dependent claim 33 requires, among other things, prior to applying a series of resource traversal functions: receiving a management action to be applied to the selected resource; and delaying application of the received action to the selected resource until a delay condition is satisfied. Li et al. fails to even suggest receiving a management action that is going to be applied (that is, in the future), and then delaying application of that action until a condition is satisfied.

Applicants' new dependent claim 34 requires, among other things, receiving a final selection of a resource representation in the network environment, the final selection comprising at least one of the presented action affected resources, the receipt of the final selection of the resource representation and the presentation of the representation of the set of action affected resources satisfying the delay condition; and applying the received management action to the final selection of the resource representation. Li et al. does not even suggest any of these limitations.

Finally, Applicants' new dependent claim 35 requires, among other things, automatically adding an action affected resource identified by the resource traversal functions to a final selection of resource representations in the network environment, the receipt of the final selection of resource representations and the presentation of the representation of the set of action affected resources satisfying the delay condition. At no point does Li et al. even suggest that, after having found resources that might be affected by a management action, any of those resources should automatically be added to a group of resources to which a management action is then later applied.

CONCLUSION

Applicants believe this Amendment and Response to be fully responsive to the present Office Action. Thus, based on the foregoing Remarks, Applicants respectfully submit that this application is in condition for allowance. Accordingly, Applicants request allowance of the application.

Applicants hereby petition for any extension of time required to maintain the pendency of this case. If there is any fee occasioned by this response that is not paid, please charge any deficiency to Deposit Account No. 50-3735.

Should the enclosed papers or fees be considered incomplete, Applicants respectfully request that the Patent Office contact the undersigned collect at the telephone number provided below.

Applicants invite the Examiner to contact the Applicants' undersigned Attorney if any issues are deemed to remain prior to allowance.

Respectfully submitted,

/SPM/

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Attorney Docket No.: EMC03-34(03149)

Dated: October 30, 2007